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EXAMINER	
TSAI, TSUNG YIN	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/754,123	BAILEY, JAMES R.	
	Examiner	Art Unit	
	TSUNG-YIN TSAI	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *7,8,20 and 21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9-19 and 22-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAIL ACTION

Acknowledge of **Request for Continuous Examination (RCE)** received on 12/1/2008 and made of record.

> A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Acknowledge of amendment to claims 1, 14 and 35.

Acknowledge of canceling claims 7-8 and 20-21.

Acknowledge of no new IDS submitted.

Response to Arguments

Applicant's argument – Pages 8-10, regarding amended claims 1, 14 and 35, applicant argues where the claim is amended around the prior art regarding having defect tagged and outside the target image region of interest.

Examiner's response – Read, in the field of mapping defect or dirt affecting scanner, teaches regarding the tagging of defect of the scanner for documents and pictures/video and processing a defect map. Where the defect map will be segmented outside the target zones of interest.

Applicant's argument – Pages 10-12, regarding depending claims, applicant argues allowability of the dependent claims using the same argument for the independent claims.

Examiner's response – Since the limitations are taught by Read, such that all dependent claims are rejected as well.

Claim Rejections – 35 USC 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5-6, 12, 14, 18-19, 25, 27, 28, 29-30, 32, 34 and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Denber (US Patent Number 5,214,470) in view of Read (6,035,072).

Denber discloses the following method and apparatus (figure 1, column 2 lines 40-67):

(1) Regarding claims 1 and 14:

performing a defect calibration scan of an image scanning area (figure 2, column 1 lines 30-67. Scan is done with out the document in place. This is the defect calibration scan.);

analyzing data produced from the defect calibration scan to detect at least one defect in at least one section of the image scanning area (figure 2, column 1 lines 30-67. Creation of black and white bitmap is the result of the analysis.); and

generating a tag containing information representing the result of the defect detection for each section of the image scanning area having a detected defect (figure 2, column 1 lines 30-67, column 2 lines 1-10 discloses bitmap creation with the black and white pixel are creation of the tags. Location determination is also the tag creation. Denber teaches in abstract that the platen is first scan and an electronic image is generated and stored which contain information on the location of the dirt spot or inherent defect such as etch marks. This suggests that the “dirt spot” is tagged with information such as location and even compare to see if such markings that are detected are see as image analysis on the detected spot. Further step, taught by Denber, includes determine whether the spot lies wholly or partially with in any information area of the document image. This not only related about tagging the dirt spot regarding with information, but how it should be deal with as shown by figure 8A-8D. Column 1 lines 65-67 disclose that information content is form from the scan);

determining a border (figure 7-8, column 3 lines 45-68 to column 4 lines 1-25 discloses where figure 7 teaches regarding finding the perimeter of the defect target using color differences of neighboring pixels outside of the defect as well as spiraling clockwise along the perimeter of the defect, this process will carry on until the center of the defect is found, in this way the border of the defect is found

by the perimeter of these different color pixels) of a target image region (figures 3-4 discloses the target image region of interest with defect) within the image scanning area (figure 2, column 1 lines 30-67. Scan is done with out the document in place. This is the defect calibration scan) based upon the information in the generated tag (figure 2, column 1 lines 30-67, column 2 lines 1-10 discloses bitmap creation with the black and white pixel are creation of the tags. Location determination is also the tag creation. Denber teaches in abstract that the platen is first scan and an electronic image is generated and stored which contain information on the location of the dirt spot or inherent defect such as etch marks. This suggests that the "dirt spot" is tagged with information such as location and even compare to see if such markings that are detected are see as image analysis on the detected spot. Further step, taught by Denber, includes determine whether the spot lies wholly or partially with in any information area of the document image. This not only related about tagging the dirt spot regarding with information, but how it should be deal with as shown by figure 8A-8D. Column 1 lines 65-67 disclose that information content is form from the scan),

the border (figure 8 discloses a circle, which is seen as the border that is of interest) surround the target image regions (figure 5 and 6 disclose the circle dot, this is the target image regions of interest);

performing processing (figure 8 discloses processing of filling within the border of interest) on the target image region (figure 5 and 6 disclose the circle dot, this is the target image regions of interest) without processing regions

outside (figure 8 discloses processing of filling within the border of interest) of the border (figure 8 discloses a circle, which is seen as the border that is of interest) of the target image region (figure 5 and 6 disclose the circle dot, this is the target image regions of interest).

Denber does not teach regarding **the section of the image scanning area tagged as having a defect being outside the determined border of the target image region.**

However, Read, in the field of mapping defect or dirt affecting scanner, teaches the section (figure 4 discloses area of scanning for processing**) of the image scanning area (**figure 4 part 206 where whole area for scanning**) tagged as having a defect (**figure 4 parts 208 are the defects**) being outside the determined border (**figure 4, figure 5**) of the target image region (**figure 4, figure 5, columns 12-13 discloses defect mapping and exclude in regions of interest**).**

It would have been obvious to one skill in the art at the time of the invention to employ Read teachings to Denber regarding defect detecting of the scanner and excluding those defects from the scan area of interest. In this way there is no further requirement of time require for processing of the defect since they are not in the area of interest, thus, faster processing.

The motivation to combine such that dynamic defect detection allows defect compensation, defect correction and alerting the operator of defects

(abstract) as well as without requiring any pristine objection of calibration (column 21 lines 20-22).

(2) Regarding claims 5 and 18:

Denber further teaches:

further comprising automatically compensating for the defect based on information contained within the tag (figure 8a-8d, figure 7, figure 9, column 3 and 4. The spiral region technique is the method that take the given information and corrects it.).

(3) Regarding claims 6 and 19:

Denber further teaches:

further comprising determining the nature of the defect by recursively dividing the section of the image scanning area tagged as having a defect into subareas and analysis each subarea in detail (figure 8a-8d, figure 7, figure 9, column 4 lines 1-10. The figures show that the defect in the area is divided. Pixel , which are the smallest division of the image, are than analysis one by one.).

(4) Regarding claims 12 and 25:

Denber further teaches:

further comprising smoothing over the section of the image scanning area tagged as having a defect if that section is determined to be included in the target image region (figure 2, figure 5, figure 6, column 2 lines 1-10, columns 3-4).

(5) Regarding claim 27:

Denber further teaches:

wherein the analyzer and the tag generator are included in the image scanning device (column 3 lines 40-67 to column 4 lines 1-25).

(6) Regarding claim 29:

Denber further teaches:

wherein the compensator is included in the image scanning device (column 3 lines 40-67 to column 4 lines 1-25, figure 8a-8d, figure 7, figure 9, column 3 and 4. The technique is the compensator).

(7) Regarding claim 32:

Denber further teaches:

wherein the compensator is included in a host computer connected to the image scanning device (column 3 lines 40-67 to column 4 lines 1-25, figure 8a-8d, figure 7, figure 9, column 3 and 4. The compensator is within the hardware.).

(8) Regarding claim 30:

Denber further teaches:

wherein at least one of the analyzer and the tag generator are included in a host computer connected to the image scanning device (column 3 lines 40-67 to column 4 lines 1-25, figure 8a-8d, figure 7, figure 9, column 3 and 4. All of the hardware are within the host processor.).

(9) Regarding claim 34:

Denber further teaches:

further comprising a processor (figure 1 part 24 discloses an image processor that carries the process of figure 2), wherein the analyzer and border

determine (figure 7-8, column 3 lines 45-68 to column 4 lines 1-25 discloses where figure 7 teaches regarding finding the perimeter of the defect target using color differences of neighboring pixels outside of the defect as well as spiraling clockwise along the perimeter of the defect, this process will carry on until the center of the defect is found, in this way the border of the defect is found by the perimeter of these different color pixels) are performed by the processor (figure 1 discloses an image processor that carries the process).

(10) Regarding claim 35:

Denber further teaches:

performing a defect scan (figure 1, figure 2 part 30 disclose scan of document) of an image scanning area (figure 2 part 30 discloses scan of document, where document is the are of interest for scanning);

detecting at least one defect (figure 3 and 4 discloses detection of spot/defect) in at least one section (figure 2 part 42 and 50 discloses where if the spot/defect is in sections such as inside or outside) of the image scanning area (figure 2 part 30 discloses scan of document, where document is the are of interest for scanning);

performing a scan (figure 2 part 34 discloses scan) on the image scanning area (figure 2 part 30 discloses scan of document, where document is the are of interest for scanning) having a target image region (figure 2 part 38, 42 and 50 discloses scanning and processing of the target image region, which is the spot);

determining a border (figure 8A disclose the circle/border of the spot/defect) of the target image region (figure 2 part 38, 42 and 50 discloses scanning and processing of the target image region, which is the spot) within the image scanning area (figure 2 part 42 discloses where the area of interest is within) based upon a location of the defect detected (figure 3 and 4 discloses detection of spot/defect), the border (figure 8A disclose the circle/border of the spot/defect) surrounding the target image region (figure 2 part 38, 42 and 50 discloses scanning and processing of the target image region, which is the spot); and

processing the target image region (figure 2 part 38, 42 and 50 discloses scanning and processing of the target image region, which is the spot) without processing sections (figure 2 part 44 discloses processing of the area within the border) of the image scanning area (figure 2 part 30 discloses scan of document, where document is the are of interest for scanning) outside of the border (figure 2 part 42 and 44, figure 8 part A-D).

Read, in the field of mapping defect or dirt affecting scanner, teaches the section (figure 4 discloses area of scanning for processing**) of the image scanning area (**figure 4 part 206 where whole area for scanning**) tagged as having a defect (**figure 4 parts 208 are the defects**) being outside the determined border (**figure 4, figure 5**) of the target image region (**figure 4, figure 5, columns 12-13 discloses defect mapping and exclude in regions of interest**).**

4. Claims 2-4,10-11, 15-17, 23-24, 28, 31 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denber (US Patent Number 5,214,470) in view of Peairs et al (US Patent Number 5,694,228).

Denber discloses all that is above except the following:

(1) Regarding claims 2 and 15:

wherein the defect calibration scan data is performed on the occurrence of at least one of the group of events comprising when the image scanning device is powered up upon request by a user, and periodically.

Peairs et al in the same field of endeavor disclose wherein the defect calibration scan data is performed on the occurrence of at least one of the group of events comprising when the image scanning device is powered up upon request by a user, and periodically (figure 1, figure 2, column 2 lines 5-20, column 3 lines 45-55).

It would have been obvious to one skill in the art at the time of the invention to employ Peairs et al teaching to Denber to scan the defect calibration scan data is performed on the occurrence of at least one of the group of events comprising when the image scanning device is powered up upon request by a user, and periodically. Such that tags database would be readily up-to-date and would be ready to be use any time that is requested.

(2) Regarding claims 3 and 16:

further comprising storing the tag.

Peairs et al in the same field of endeavor disclose further comprising storing the tag (figure 1, figure 2, column 2 lines 5-15, column 2 lines 35-40, column 4 table 1, figure 7, figure 9.).

It would have been obvious to one skill in the art at the time of the invention to employ Peairs et al teaching to Denber to further comprising storing the tag. Such that the detection will know the location and tags database would be readily up-to-date and would be ready to be use any time that is requested.

(3) Regarding claims 4 and 17:

further comprising repeating the steps of performing the defect calibration scanning, analyzing defect calibration scan data to detect for a new defect and a change in any previously detected defect, generating and storing a tag for each new detected defect, and updating the stored tag for each previously detected defect that has changed.

Peairs et al in the same field of endeavor disclose further comprising repeating the steps of performing the defect calibration scanning, analyzing defect calibration scan data to detect for a new defect and a change in any previously detected defect, generating and storing a tag for each new detected defect, and updating the stored tag for each previously detected defect that has changed (figure 1, figure 2, column 2 lines 10-20, column 3 lines 45-55. New defects are noted and their location and values are store and update to the tag database.).

It would have been obvious to one skill in the art at the time of the invention to employ Peairs et al teaching to Denber further comprising repeating the steps of performing the defect calibration scanning, analyzing defect calibration scan data to detect for a new defect and a change in any previously detected defect, generating and storing a tag for each new detected defect, and updating the stored tag for each previously detected defect that has change. Such that tags database would be readily up-to-date and would be ready to be use any time that is requested.

(4) Regarding claims 10, 23 and 36:

Denber teaches regarding based upon the border determination (figure 7-8, column 3 lines 45-68 to column 4 lines 1-25 discloses where figure 7 teaches regarding finding the perimeter of the defect target using color differences of neighboring pixels outside of the defect as well as spiraling clockwise along the perimeter of the defect, this process will carry on until the center of the defect is found, in this way the border of the defect is found by the perimeter of these different color pixels)

Denber does not teach regarding:

further comprising cloning the target image to produce multiple target images over the image scanning area.

Peairs et al in the same field of endeavor disclose wherein the section of the image scanning area tagged as having a defect is ignored in cloning the target image to produce multiple target images over the image scanning area

(figure 1, figure 2, column 3 lines50-67 to column 4 lines 1-2. Office copier is the "cloner" that will output the multi image ignoring the defect area.).

It would have been obvious to one skill in the art at the time of the invention to employ Peairs et al teaching to Denber wherein the section of the image scanning area tagged as having a defect is ignored in cloning the target image to produce multiple target images over the image scanning area. Such would be the efficiency and faster way of making copies of the target image.

(6) Regarding claim 28:

Denber teaches all the subject matter above.

Denber does not teach regarding wherein the memory is included in the image scanning device.

Peairs et al in the same field of endeavor disclose wherein the memory is included in the image scanning device (figure 1, figure 2).

It would have been obvious to one skill in the art at the time of the invention to employ Peairs et al teaching to Denber wherein the memory is included in the image scanning device. Such that the design would be cumulative feature and such feature of including memory within would make the process faster.

(7) Regarding claim 31:

Denber teaches all the subject matter above.

Denber does not teach regarding wherein the memory is included in a host computer connected to the image scanning device.

Peairs et al in the same field of endeavor disclose wherein the memory is included in a host computer connected to the image scanning device (figure 1, figure 2).

It would have been obvious to one skill in the art at the time of the invention to employ Peairs et al teaching to Denber wherein the memory is included in a host computer connected to the image scanning device. Such that the design would be cumulative feature and such feature of including memory within would make the process faster.

1. Claims 9, 22 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denber (US Patent Number 5,214,470) in view Miura et al (US 2003/0002580 A1).

(1) Regarding claims 9, 22 and 37:

Denber teaches the following subject matter:

further comprising autofitting the target image region to the image scanning area (figure 2, figure 5, figure 6, column 2 lines 1-10, column 3 lines 55-65) based upon the border determination (figure 7-8, column 3 lines 45-68 to column 4 lines 1-25 discloses where figure 7 teaches regarding finding the perimeter of the defect target using color differences of neighboring pixels outside of the defect as well as spiraling clockwise along the perimeter of the defect, this process will carry on until the center of the defect is found, in this way the border of the defect is found by the perimeter of these different color pixels**)**.

Denber does not teach regarding to autofitting of the target image region.

However, Miura et al regarding the autofitting of the target image region (figure 19 discloses target image region or the defect area is display and enlarge for viewing. Page 7 paragraph 0095-0099 discloses image of defect is enlarge in the display section while mainly focusing on the defect image, this is seen as autofitting as define by the specification by the applicant).

It would have been obvious to one skill in the art at the time of the invention to employ Miura et al teachings to Denber regarding further enhancing the viewing of the detail of a detected defect for further analysis.

The motivation to combine such that the defect image obtain by the inspection and autofit will enable the observing of the state of each defect in detail (page 8 paragraph 0099).

2. Claim 11, 24 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denber (US Patent Number 5,214,470) and Peairs et al (US Patent Number 5,694,228) further in view of Miura et al (US 2003/0002580 A1).

(5) Regarding claims 11, 24 and 38:

Denber teaches regarding based upon the border determination (figure 7-8, column 3 lines 45-68 to column 4 lines 1-25 discloses where figure 7 teaches regarding finding the perimeter of the defect target using color differences of neighboring pixels outside of the defect as well as spiraling clockwise along the perimeter of the defect, this process will carry on until the center of the defect is

found, in this way the border of the defect is found by the perimeter of these different color pixels)

Peairs et al in the same field of endeavor disclose wherein the section of the image scanning area tagged is having a defect is ignored in enlarging the target image to fit across multiple image scanning areas (figure 1, figure 2, column 3 lines50-67 to column 4 lines 1-2. Copier not only have the ability to copy, but also edit and change the image, in this case enlarging or blow up the image from original size.).

However, Miura et al regarding the enlarging of the target image region (figure 19 discloses target image region or the defect area is display and enlarge for viewing. Page 7 paragraph 0095-0099 discloses image of defect is enlarge in the display section while mainly focusing on the defect image, this is seen as enlarging as define by the specification by the applicant).

It would have been obvious to one skill in the art at the time of the invention to employ Miura et al teachings to Denber regarding further enhancing the viewing of the detail of a detected defect for further analysis.

The motivation to combine such that the defect image obtains by the inspection and enlarging will enable the observing of the state of each defect in detail (page 8 paragraph 0099).

5. Claims 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denber (US Patent Number 5,214,470) in view of Xu et al (US Patent Number 5,761,336).

Denber discloses all that is above except the following:

(1) Regarding claims 13 and 26:

Denber teaches all the subject matter above.

Denber does not teach regarding wherein the defect calibration scan is a low resolution.

Xu et al in the same field of endeavor disclose wherein the defect calibration scan is a low resolution (figure 1, column 4 lines 10-42, column 5 lines 65-67 to column 6 lines 1-10.)

It would have been obvious to one skill in the art at the time of the invention to employ Xu et al teaching to Denber wherein the defect calibration scan is a low resolution. Such the defect calibration scan will a quick update for the tag database and low resolution scanning would increase depth of focus providing superior defect detection and classification.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Denber (US Patent Number 5,214,470) in view of Sampath et al (US Patent Number 6,665,425 B1).

(13) Regarding claim 33:

Denber teaches regarding the apparatus (figure 1 discloses apparatus)

Denber does not teach regarding multifunction device having a printer and scanner.

However, Sampath et al teaches where this multifunction device having a printer and scanner (figures 2-7 disclose where the system comprises of printer and scanner, column 3 lines 45-68 discloses a multifunction device having a printer and scanner).

It would have been obvious to one skill in the art at the time of the invention to employ Sampath et al teaching to Denber regarding multifunction device having a printer and scanner, such the motivation to combine so all the part of the system can exercised appropriately to extract useful diagnostic information that will be same for all the part of the system, printer and scanner, for normal machine operation mode (column 3 lines 45-68 to column 4 lines 1-10).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TSUNG-YIN TSAI whose telephone number is (571)270-1671. The examiner can normally be reached on Monday - Friday 8 am - 5 pm ESP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624

/Tsung-Yin Tsai/

Examiner, Art Unit 2624

January 16, 2009